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ABSTRACT TITLE: Launch Readiness for the Atmospheric Infrared Sounder (AIRS)
on the Earth Observing System Aqua Spacecraft

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ABSTRACT TEXT: The Atmospheric Infrared Sounder project will measure global atmospheric water vapor and temperature with unprecedented resolution and accuracy. AIRS is an infrared instrument with covering 3.7-15.4 microns in 2378 IR channels. Spectral separation is achieved with a diffraction grating operating in orders 3-11. Detection employs photovoltaic and photoconductive HgCdTe infrared detectors. Cooling of the optics is achieved with passive radiators, while the detectors are cooled with a split cycle Sterling cooler. AIRS also has VIS/NIR imaging channels primarily for cloud detection. The AIRS instrument is currently mounted on the Earth Observing System Aqua Spacecraft and has completed all launch critical testing. The Aqua spacecraft is nearing the final stages of integration and test and this paper is intended to address our readiness for the flight phase of the program. This paper describes the instrument design and operation, pre-flight tests results both at the instrument development facility and on the spacecraft, and the in-flight operational scenario and science data usage plans.

KEY WORDS: EOS, Aqua, AIRS, Sounder

BRIEF BIOGRAPHY: Thomas S. Pagano is with NASA JPL and is Systems Engineer and Calibration Lead for the AIRS instrument on EOS-Aqua. Prior to working at JPL, he was Chief Systems Engineer for MODIS on EOS-Terra. He has his MS in Physics, holds two US patents, and has authored numerous papers on spaceborne remote sensing systems.